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10/636,015	08/06/2003	Bruno Senn	IVd09US	9132

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EXAMINER
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TIBBITS, PIA FLORENCE

ART UNIT	PAPER NUMBER
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2838

DATE MAILED: 03/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/636,015

Applicant(s)

SENN ET AL.

Examiner

Pia F. Tibbits

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8,10,11,14-17,19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8,10,11,14-17,19 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

This Office action is in answer to the RCE and amendment filed 2/17/2006. Claims 1-8, 10, 11, 14-17, 19 and 20 are pending, and claims 1-3 are amended.

***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the multiple-prong plug, etc. must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

1. The amendment filed 6/20/2005 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material, which is not supported by the original disclosure, is as follows: **"interchangeable", "the modules may be assembled", "the modules may be used in different pairings"**. Applicant is required to cancel the new matter in the reply to this Office Action.

### ***Claim Objections***

2. Claim 5 is objected to because of the following informalities:

Claim 5: lacks dependency information. To continue prosecution it was assumed that it depends upon claim 1, as disclosed in a prior submission.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-8, 10, 11, 14-17, 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1: the recitation "two or more additional modules that are **interchangeable** with other for assembly into the handheld module" is not clear. The Webster Dictionary, 10<sup>th</sup> edition describes "interchangeable" as "capable of being interchanged; permitting mutual substitution". That is not the case with the "base station module" 30, the "connection module" 24, the "service module" 62, and the "storage battery module" 22: they are **not** interchangeable, since they each have a different function. To continue prosecution it was assumed that each individual module is claimed.

### ***Art Rejection Rationale***

5. At the outset, the examiner notes that claims are to be given their broadest reasonable interpretation in light of the supporting disclosure. *In re Zletz*, 893 F.2d 319, 321, 13 USPQ 2d 1320, 1322 (Fed. Cir. 1989); *In re Prater*, 415 F.2d 1393, 1404, 162 USPQ 541, 550 (CCPA 1969); *In re Yamamoto*, 740 F.2d 1569, 222 USPQ 934 (Fed. Cir.1984); *Burlington Indus. V. Quigg*, 822 F.2d 1581, 3 USPQZd 1436 (Fed. Cir. 1987); *In re Morris*, 43 USPQZd 1753, 1756 (Fed. Cir. 1997). ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow.... The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed.... An essential purpose

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of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process.”). In responding to this Office action, applicants are reminded of the requirements of 37 CFR 1.111 and 1.119 that applicants specifically point out the specific distinctions believed to render the claims patentable over the references in presenting responsive arguments. See MPEP 714.02. The support of any amendments made should also be specifically pointed out. See MPEP 2163.06.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-8, 10, 11, 14-17, 19, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over prior art disclosed by applicant, **WO-0160280** [hereinafter WO] in view of **Bell** [5947729] in view of **Smart Battery Data Specification and System Management Bus BIOS Interface Specification** at <http://www.sbs-forum.org/specs/sbdat110.pdf>

As to claim 1, the claim language was interpreted in light of the specification describing “service module 62 can also be installed or inserted into the hand-held device 10 **in lieu of** the connection module 24” [paragraph 0061], i.e., either **the service module or the connection module** is used, **not both**. And further, in the same paragraph, the specification describes, “In connection with the use of an additional service adapter or module 62, the hand-held device 10 can, when so configured, even be operated in a power pack operation. The **service module** 62, in addition to providing access to an **electrical supply cable** via a connection to a plug power pack 60, provides accessibility to a **serial bus** 64 for connection to a PC 66”.

WO discloses a light polymerization device comprising:

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a hand-held module 1 [see fig.4],

at least two or more additional modules including a base station 14A [see fig.4], a connection module 15 [see fig.5], and a storage battery module 14, which may be secured [see fig.1] to the hand-held module 1; and

a data bus [see figures 14 and 15; page 6, lines 1-4] provided between at least two modules.

WO does not disclose specifically a service module. However, WO discloses in fig.14 the hand-held module 1 connected to a computer/power supply, and to a plug power pack 60. Therefore, to use a service module in lieu of a computer connected to a power plug, absent any criticality, is only considered to be the use of "optimum" or "preferred" material that a person having ordinary skill in the art at the time the invention was made using routine experimentation would have found obvious to provide for the enclosure, since it has been held to be a matter of **obvious design choice** and within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use of the invention. See *In re Leshin*, 125 USPQ 416. Under some circumstances, however, changes such as these may impart patentability to a process if the particular ranges claimed produce a new and unexpected result, which is different in kind, and not merely in degree from the results of the Prior Art. *In re Dreyfus*, 22 CCPA (Patents) 830, 73 F.2d 931, 24 USPQ 52; *In re Waite et al.*, 35 CCPA (Patents) 1117, 168 F.2d 104, 77 USPQ 586. Such ranges are termed "critical" ranges, and the applicant has the burden of proving such criticality. *In re Swenson et al.*, 30 CCPA (Patents) 809, 132 F.2d 1020, 56 USPQ 372; *In re Scherl*, 33 CCPA (Patents) 1193, 156 F.2d 72, 70 USPQ 204. However, even though applicant's modification results in great improvement and utility over the Prior Art, it may still not be patentable if the modification was within the capabilities of one skilled in the art. *In re Sola*, 22 CCPA (Patents) 1313, 77 F.2d 627, 25 USPQ 433; *In re Norman et al.*, 32 CCPA (Patents) 1248, 150 F.2d 627, 66 USPQ 308; *In re Irmischer*, 32 CCPA (Patents) 1259, 150 F.2d 705, 66 USPQ 314. More particularly, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Swain et al.*, 33 CCPA (Patents) 1250, 156 F.2d 239, 70 USPQ

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412; *Minnesota Mining and Mfg. Co. v. Coe*, 69 App. D.C. 217, 99 F. 2d 986, 38 USPQ 213; *Allen et al. v. Coe*, 77 App. D. C. 324, 135 F.2d 11, 57 USPQ 136.

As to the limitation of having a handgrip for the hand-held module: it is an inherent function of the WO light polymerization device to have a handgrip [see also fig.4], and MPEP 2100 states that the disclosure of a limitation may be expressed, implicit or **inherent**.

WO does not disclose specifically a plurality of electrical supply connectors and data, in particular control data for the hand-held module is transferable.

Bell discloses in the abstract and figures 1-7 a dental system comprising a plurality of individual modules, with at least some of the modules including tool interfaces, which may be coupled with one or more dental tools. Each of the modules includes a power interface, and a communication interface to allow power, and information, to be transferred between the modules when coupled together. The patent also discloses such a system is particularly advantageous in that a dentist may expand his practice to include additional procedures simply by purchasing another module and interfacing the module with the existing module, so that the required space for the new equipment is also minimized [see column 1, lines 54-58]. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify WO's apparatus and include a modularized system where a power interface, and a communication interface is provided for each module, as disclosed by Bell, in order to allow power, and information to be transferred between the modules when coupled together.

Smart Battery Data Specification and System Management Bus BIOS Interface Specification discloses a Smart Battery, a battery equipped with specialized hardware that provides present state, calculated and predicted information to its SMBus Host under software control. An I2C bus is used to transport data between devices. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to include in WO's and Bell's apparatus a Smart Battery and an I2C bus, as disclosed by Smart Battery Data Specification, so that data, in particular control data for the hand-held module is transferable.

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As to claim 2, WO, Bell and Smart Battery Data Specification and System Management Bus BIOS Interface Specification disclose wherein the hand-held device 1 includes at least one port or interface for the data bus 24, which is additional to, and especially, adjacent to, a plurality of electrical supply contacts provided for the supply of electrical energy. With regard to the particular location of the port or interface for the data bus, i.e., adjacent to at least two electrical power supply connectors, absent any criticality, is only considered to be an obvious modification as it has been held by the courts that there would be no invention in shifting the location of a structure of a device to another location if the operation of the device would not thereby be modified. *In re Japikse*, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950) MPEP 2144.04.

As to claims 3-7, see remarks and references above.

As to claim 8, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to make integral the connection module, the storage battery module, and the service module, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routing skill in the art. *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965). See MPEP 2144.04. As to an outer configuration which extends flush with a surface of the hand-held module (10), the separation line (26) between the hand-held module (10) and the other modules extends not in a linear manner but in a wavy manner to contribute to the aesthetically pleasing appearance of the device and makes possible an improved anchoring with relatively little construction effort: the court found that matters relating to ornamentation only which have no mechanical function cannot be relied upon to patentably distinguish the claimed invention from the prior art if a change in shape or configuration is used solely to provide an aesthetically pleasing appearance of the device, and without any criticality, is within the level of skill in the art as the particular shape claimed by applicant is nothing more than one of numerous shapes that a person having ordinary skill in the art will find obvious to provide using routine experimentation based on its suitability for the intended use of the invention. See *In re Seid*, 161 F.2d 229, 73 USPQ 431 (CCPA 1947).

As to claims 10, 11, 15, 19, see remarks and references above.



As to claims 14 and 20, WO discloses microcontroller MC and logic UC [see pages 12,13 and figures 9 and 11]. Bell discloses a light module 20 that includes a controller 148 to allow module 20 to communicate with a base module 12 and lamp controller 150, which is coupled to a connector 152 [see column 2, lines 37-38; column 7, lines 59-67; column 8, lines 1-8]. With regard to the limitation of having at least one of calibration data, light output performance data, mass data, and operational time data of the light polymerization device stored in at least the hand-held device, it is an inherent function of the light polymerization device disclosed by WO, Bell and Smart Battery Data Specification and System Management Bus BIOS Interface Specification to include application specific information in module 20, and MPEP 2100 states that the disclosure of a limitation may be expressed, implicit or **inherent**.

As to claim 16, WO, Bell and Smart Battery Data Specification and System Management Bus BIOS Interface Specification disclose the claimed invention except for an additional connection module used in lieu of the service module. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make separable the hand-held device and the connection module, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *In re Dulberg*, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961). See also MPEP 2144.04. With regard to the limitation of having the connection module connectable with at least one of the hand-held device and the base station, it is an inherent function of the light polymerization device disclosed by WO, Bell and Smart Battery Data Specification and System Management Bus BIOS Interface Specification to include a connectable module as part of module 20, and MPEP 2100 states that the disclosure of a limitation may be expressed, implicit or **inherent**.

As to the multi-branch receptacle, in order to continue prosecution it was assumed to be "bundled wires". Official Notice is taken with regard to the use of "bundled wires", since it is well known in the art to use a "bundled wires" in order to simplify electrical connectors.

As to the use of a multi-prong plug and a multi-branch receptacle for the connection module, absent any criticality, is only considered to be the use of "optimum" or "preferred" material that a person having ordinary skill in the art at the time the invention was made using routine experimentation would

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have found obvious to provide for the module disclosed by WO, Bell and Smart Battery Data Specification and System Management Bus BIOS Interface Specification in order to accommodate application specifics, since it has been held to be a matter of obvious design choice and within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use of the invention. See *In re Leshin*, 125 USPQ 416. *In re Aller*, 105 USPQ 233 (CCPA 1955), *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

As to claim 17, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to make integral the connection module 13 and the hand grip of the hand-held module 10, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routing skill in the art. *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965). See MPEP 2144.04.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

#### ***Information Disclosure Statement***

9. The Information Disclosure Statement (Form PTO-1449) filed 8/6/2003 and 6/24/2005 reference foreign patents described only by abstracts, DE-4116604, and WO-0160280. Since these references seem to read on applicant's instant application, a full translation should be provided.

10. The information disclosure statement filed 6/24/2005 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the

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individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language, e.g., DE-4211230 and DE-19857613. It has been placed in the application file, but the information referred to therein has not been considered.

11. The information disclosure statement filed 6/24/2005 cites US 6193510, included in the PTO-892 mailed with the Office action of 3/18/2005, which therefore is redundant.

### ***Response to Arguments***

13. Applicant's arguments with respect to the claims have been considered but are moot in view of the new grounds of rejection. Applicant amended the independent claim 1, which is new issue.

### ***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in PTO-892 and not mentioned above disclose related apparatus: **Loge** [5653591] discloses a dental instrument where wires 31 are bundled and are undetachably connected to a socket 32 which is detachably connected with the shaft 23 by means of a securable plug-in socket or by a screw connection. The socket 32 preferably has a sleeve 33, into which the wire packet is received in the manner of a pot and is therein attached e.g. by means of a clamping effect, gluing, welding, in particular laser welding, or soldering, preferably hard soldering. **Mann** [5471129], prior art disclosed by applicant, discloses in figures 1-4 a light polymerization device, comprising: a module including at least a base station/recharging unit 10, a hand-held device 12, and a storage battery assembly 68 securable to the hand-held device 12; **Fiebig** [5539297] discloses data bus/conductors 52.1-54.n connecting base stations/modules 1.1-1.n, so that the modules could be switched on/off according to battery parameters [see column 3, lines 49-54]; **Sainsbury et al.** [6104162] discloses in figures 1-6 a connection module 15 connected with an external electrical supply source, and the connection module is connectable with at least one of the hand-held device and the base station [see figures 1 and 2]. The multi-functional power block is capable of being powered from multiple energy sources including, but not limited to, AC mains, DC power or fuel cell, and receiving power from the multi-functional power block and fit into the recess in

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the hand-held device which receives the power pack [see column 1, lines 66-67; column 2, lines 1-4]; **Brotto et al.** [6218806] discloses a charging apparatus for charging a battery comprising a current source for providing current to the battery, a controller connected to the battery and to the current source for controlling charging of the battery, and a memory connected to the controller for storing information about the battery. The memory may also store information about the charging apparatus. Preferably, the memory is a non-volatile memory, such as E<sup>2</sup>PROM. A battery having a memory for storing information, a power device having a memory for storing information about the device, and a reading apparatus for reading the information stored in the memory of the charger, battery and/or power device are also disclosed. **Brotto** [6175211] discloses in fig. 3, a "smart battery" 10, powering a hand-held device, which has an on-board controller 40 (preferably comprising a microprocessor 41), normally powered-up at all times, that can provide to or receive from the charger and/or device data, such as state-of-charge information; by being normally powered, controller 40 can also log and/or store any data as required; **Koenck** [4553081] discloses a "smart battery" powering a hand-held device [see fig.1].

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Pia Tibbits whose telephone number is 571-272-2086. If unavailable, contact the Supervisory Patent Examiner Karl Easthorn whose telephone number is 571-272-1989. The Technology Center Fax number is 571-273-8300.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PFT

March 14, 2006

Pia Tibbits

Primary Patent Examiner

